

**REMARKS**

**I. INTRODUCTION**

Applicant thanks the Examiner for the indication that claims 5, 6, 11, 12, 17, 18, 21, 36, 38-42 and 44-52 are allowed. Further, Applicant thanks the Examiner for the indication that claims 24, 28 and 29 would be allowable if rewritten in independent form to include all of the limitations of the base claim and intervening claims.

Claims 4, 10, 16, 20 and 23 have been cancelled, without prejudice. Claims 24-27, 31-35, 37, 43, 47, 48, 49 and 53 have been amended above to address minor issues therein, but not for any reason relating to patentability thereof. Independent claim 30 has been amended to clarify the subject matter recited therein. New claims 54-58 have been added. Accordingly, claims 5, 6, 11, 12, 17, 18, 21 and 24-58 are now under consideration in the above-referenced application. Provided above, please find a claim listing indicating the current cancellations and amendments to the previously-pending claims on separate sheets so as to comply with the requirements set forth in 37 C.F.R. § 1.121. It is respectfully submitted that no new matter has been added.

**II. OBJECTIONS TO CLAIMS SHOULD BE WITHDRAWN**

Claims 25-27, 48 and 49 stand objected to as being dependent from cancelled claims. As the Examiner shall ascertain, claims 25-27, 48 and 49 have been amended to depend from pending independent claims 23, 4 and 5, respectively. Accordingly, the objection to claims 25-27, 48 and 49 is now moot, and should therefore be withdrawn.

**III. REJECTION UNDER 35 U.S.C. § 112 SHOULD BE WITHDRAWN**

Claims 25-27, 30-35, 37, 43 and 53 stand rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite. As the Examiner shall ascertain, each of these claims have been amended above to the address the minor informalities provided therein and in view of the comments provided by the Examiner in the Office Action dated December 11, 2007. It is respectfully asserted that the amendments to claims 25-27, 30-35, 37, 43 and 53 have not been made for any reasons relating to patentability thereof, but only to remove minor informalities therefrom. Accordingly, the § 112, second paragraph rejection of claims 25-27, 30-35, 37, 43 and 53 is now moot, and should therefor be withdrawn.

**IV. REJECTIONS UNDER 35 U.S.C. § 102(b) SHOULD BE WITHDRAWN**

Claims 4, 10, 16 and 20 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 6,563,315 issued to Boskamp et al. (the “Boskamp Patent”). Further, claims 23, 30-32 and 34 stand rejected under 35 U.S.C. § 102(b) as being allegedly unpatentable over U.S. Patent No. 4,755,755 issued to Carlson (the “Carlson Patent”).

As an initial matter, claims 4, 10, 16, 20 and 23 have been cancelled above without prejudice. Accordingly, the § 102(b) of claims 4, 10, 16 and 20 as being anticipated by the Boskamp Patent and the § 102(b) of claim 23 as being anticipated by the Carlson Patent are now moot, and should therefor be withdrawn.

Regarding the § 102(b) rejection of claims 30-32 and 34, Applicant respectfully asserted that the Carlson Patent does not disclose the subject matter recited in amended independent claim 30 of the above-referenced application, and claims 31, 32 and 34 which depend from amended independent claim 30 for at least the reasons provided in greater detail herein below.

In order for a claim to be rejected as anticipated under 35 U.S.C. § 102, each and every element as set forth in the claim must be found, either expressly or inherently described, in a single prior art reference. Manual of Patent Examining Procedures, § 2131; *see also Lindman Maschinenfabrik v. Am Hoist and Derrick*, 730 F.2d 1452, 1458 (Fed. Cir. 1984).

An exemplary embodiment of Applicant's invention, as recited in amended independent claim 30, relates to a coil arrangement which comprises, *inter alia*:

a first conductive member; and

a second conductive member electrically coupled to the first conductive member;

**a third conductive member which is directly electrically coupled to an input portion of each of the first and second conductive members; and**

**a fourth conductive member which is directly electrically coupled to an output portion of each of the first and second conductive members ... .**

The Carlson Patent relates to an electromagnetic coil structure used in an MRI system for creating transverse magnetic gradients in a static magnetic field directed along a predetermined z-axis.. (See Carlson Patent, col. 1, lns. 8-12). This structure includes a super conducting solenoid 10 in a cryogenic housing 12 for producing a strong static magnetic field  $H_0$  directed along the z-axis in the x, y, z

coordinate system. Nested within the static field coil 10 are the x-gradient coils, the y-gradient coils and the z-gradient coils for producing gradients in the static field  $H_0$  along the x, y and z directions respectively. A patient or other object to be imaged typically is then positioned within all of these nested gradient coils with the portion of the body to be imaged located at some predetermined observation "point" or imaging volume (e.g., typically between the symmetrical saddle coil structures of the x and y gradient coils). The gradient coils also are individually connected to suitable switched current drivers controlled by the MRI apparatus in the usual manner. (See *id.*, col. 4, Ins. 1-23; and Fig. 1).

In clear contrast to the Applicant's claimed invention, the Carlson Patent does not disclose a coil arrangement in which, *inter alia*, **a third conductive member which is directly electrically coupled to an input portion of each of first and second conductive members** (at least one of which forms an arc), **and a fourth conductive member which is directly electrically coupled to an output portion of each of the first and second conductive members**, as explicitly recited in amended independent claim 30 of the above referenced application.

The Carlson Patent describes and shows a coil arrangement that contains arcs connecting parallel conductive segments to one another. (See Carlson Patent, Fig. 1). Indeed, each of the arcs connects two such conductive segments at one end, and another arc connects the end of one of these conductive segments to an end of a completely different conductive segment. (See *id.*) However, as recited in amended independent claim 32, the third conductive member is directly electrically coupled to an

input portion of each of the first and second members, and the fourth conductive member is directly electrically coupled to an output portion of each of the first and second members. Thus, *the inputs and outputs of the same (i.e., first and second) conductive arrangements are directly electrically coupled to one another via other conductors*. This is contrary to the disclosure of the Carlson Patent, which electrically directly couples two segments of the conducting segments to one another at one ends thereof, but not at the respective other ends.

Accordingly, it is respectfully asserted that the Carlson Patent does not disclose the subject matter recited in amended independent claim 30 and claims 31, 32 and 34 which depend therefrom. Therefore, for at least the reasons set forth herein above, Applicant respectfully asserts that the rejection of claims 30-32 and 34 under 35 U.S.C. § 102(b) should be withdrawn.

**V. NEW CLAIMS 54-58**

New claim 54 which depends from amended independent claim 30 and independent claims 55-58 have been added above to recite additional subject matter for Examiner's consideration. Support for these new claims can be found in the specification and the drawings. Applicant respectfully asserts that the subject matter recited in these new claims is patentable over the art relied on by the Examiner. A conformation of allowability of these new claims is thus respectfully requested.

**VI. ALLOWABLE SUBJECT MATTER**

Applicant thanks the Examiner for the confirmation that claims 5, 6, 11, 12, 17, 18, 21, 36, 38-42 and 44-52 are allowed. Further, Applicant thanks Examiner for the confirmation that claims 24, 28 and 29 are objected to as being dependent on a rejected base claim, but would be allowed if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

As the Examiner shall ascertain, claim 24 has been rewritten in independent form. Accordingly, Applicant respectfully requests that the allowability of claims 24 and claims 28 and 29 which depend therefrom be confirmed in a subsequent communication.

**VII. CONCLUSION**

In light of the foregoing, Applicant respectfully submits that pending claims 5, 6, 11, 12, 17, 18, 21 and 24-58 are in condition for allowance. Prompt consideration, reconsideration and allowance of the present application are therefore earnestly solicited. If any issues remain outstanding, the Examiner is invited to contact the undersigned via the telephone number provided below.

Respectfully submitted,

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